

SPARK GAP

Vol. 33, Issue 3, March 2016 *MARC - Serving Central Indiana Communities for thirty-three years*

On the MARC:

Only a few more days and spring will be here. March is severe weather preparedness month across the United States. With spring comes the possibility of Storms and severe weather. I hope many of you were able to attend the Storm Spotter training that was scheduled this past Monday, March 14, 2016.

I hope everyone has had a chance to visit the new Website and take a look around. Many changes have been made to the MARC Website. I would like to thank Kevin, Matt, Ron and Rusty for all the work they have put into the change. But most of all, I would like to thank Andrew for spending many hours creating the Website. I know he spent many hours working on it. Please don't forget about our Facebook page either. Our Website is www.midstatehams.org and the Facebook page is [facebook.com/MidState ARC](https://www.facebook.com/MidStateARC).

Another reminder is that our monthly meeting will be at the new EOC this month and possibly the next few months as the old meeting room is getting a new look since the flood. We should have no problems in getting back to the new EOC as the gates haven't been put in place as of yet. Getting to the new EOC is quite simple: to the left of the same building where we have our meetings, is a drive. There are two red "stop signs" advising that only law enforcement personal are allowed beyond this point. This is the correct drive!! Really!! Follow that road keeping to the right of the 400 foot tower and find a parking spot in the cluster of vehicles sporting vanity HAM license plates and antennas. Someone will assist in getting through the secured door.

For those of you that were not at the meeting in February, we now have the information for the Kroger card to sign up and get registered so the Club can start earning points. The information sheet is located on the Website. Also, I will have some with me to pass out at the meeting. I hope everyone will take the time to register your number. Just remember, it does not take points away from you.

Just a reminder that we are in a New Year and time to get your dues current. If you haven't paid your dues for the year please see Cy at the meeting. Thanks to all of you who have paid your membership for 2016.

I would like to thank those who made it out for our Dinner Social on March 9. We all had a good time. I hope with warmer weather coming, more will join us in April.

See you Saturday and the coffee will be on.

Jacki-KI6QOG
President





Birthdays for the month of March:

KC9VGQ Chris Mazzarella

KC9WLR Mike Rose

KB9LOT Dave Daily

KC9EBL Brenda Haler

N9LC Steve Brown

KD9FFI Todd Bradenburg

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HELP NEEDED FOR UPCOMING EVENTS

**Ham Radio Volunteers are needed in all the public served events that we support.
These are:**

May 7 - 500 Festival Mini Marathon

May 28 - 500 Festival Parade

Jun 4 - American Diabetes Tour-de-Cure Bike Ride

Aug 1 - Indy Air Race

Sep 10 - Multiple Sclerosis Bike Ride

Oct 1 - Indianapolis Marathon in Lawrence

Nov 7 - Indianapolis Monumental Marathon

Contact is Mike Palmer, N9FEB ---- N9FEB@comcast.net

Michael R. Palmer, N9FEB

Marion County IN Events Coordinator for Ham Radio

7461 Hague Rd., Indpls, IN 46256

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www.IndyHams.org

2016 Central Indiana Severe Weather Symposium

The 2016 Central Indiana Severe Weather Symposium, held on Saturday, March 5, has come and gone. I was fortunate to have attended this year all day programs held at Butler University. This was not my first weather symposium. However, I would rank it as one of the better symposium offered by the Indiana National Weather Service that I have attended.

Participants were welcomed by Dan McCarthy, Meteorologist-in-Charge, NWS Indiana. Dan explained that the theme of the symposium was preparing our community to become a “Weather-Ready Nation (WRN)”.

Dave Tucek, NWS Indiana expanded on this concept by explaining that we need to build community resilience in the face of increasing vulnerability to extreme weather. He mentioned that WRN Ambassadors served a pivotal role in affecting societal change – helping our nation/community to be ready and responsive extreme weather conditions by:

- Promoting Weather Ready Nation messages
- Collaborating with National Oceanic and atmospheric Administration (NOAA)
- Sharing preparedness success stories
- Serving as an example

Ham radio operators who participate as weather spotter are a key link in the WRN Ambassador model.

John Kwiatkowski, NWS, Indiana, reviewed how “quasi-linear convection system” (more commonly known as squall-lines) formed and showed what they look like on radar. Beyond the radar science involved in monitoring and tracking storms, it was emphasized that on-site spotters were still critical to validating ongoing weather conditions.

Chris Wright, CBS4 Weather Broadcaster, provided an overview of his career as a weather broadcaster in the Indianapolis market. He has worked for almost all of the area network station. He further spoke about how the communication of severe weather conditions to the public has dramatically changed over the years.

Dr. Laura Myers, University of Alabama-Center for Advanced Public Safety, lead a very interesting discussion regarding her study of how the different groups of individuals in our community perceive messages regarding dangerous weather condition and their response or lack of response.

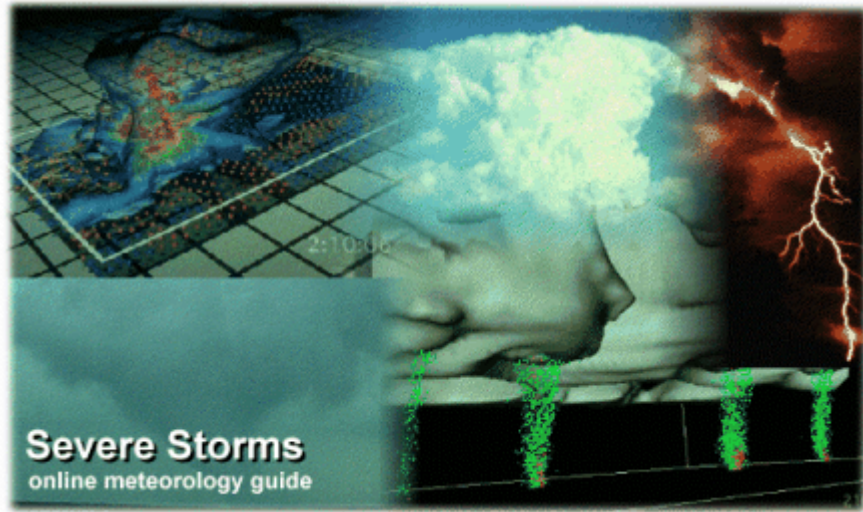
After a wonderful lunch, Jeff Piotrowski, Storm Productions, Inc., show an exciting and stress provoking video, filmed as he was involved in chasing the El Reno Tornado. The El Reno Tornado was an EF5 tornado that occurred several year ago in Oklahoma that was nearly 2.6 miles wide. Many in the path of this storm were totally unprepared resulting in extreme damage and casualties.

Carlos Garcia, Director of Emergency Management, IUPUI, provided an overview of the recently implemented IUPUI emergency response system. This state-wide system helps IUPUI protect its state-wide students, faculty, and staff when weather or other emergencies are eminent.

Finally, the NWS, Indiana, staff lead by Marc Dahmer and Amanda Lee presented a mock situation that looked at their internal processes for handling a potential weather warning.

Emergency weather spotting is an important part of our amateur radio purpose and services to the community. Personally, I thought the symposium was well worth the \$25.00 fee and full day commitment.

..... Bruce K9ICP



<http://ww2010.atmos.uiuc.edu/%28Gh%29/guides/mtr/svr/home.rxml>

For those that could not attend the Storm Spotter training or need a refresher you will find good information about storms and severe weather on the NWS web site listed above.

The Severe Storms Module is a combination of two elements. The first is the NOAA Severe Storms Spotters Guide. The second is a section recently added to discuss the efforts and results of modeling severe storms. The Severe Storms Spotters Guide contains supplemental instructional resources and a program designed to familiarize meteorologists and advanced severe storm spotters with the basic "building blocks" of convective storm structure. The focus of the training series is the development of a thunderstorm "spectrum" and a discussion of the physical characteristics and severe weather potential of the various storm types in the spectrum.

Components of Thunderstorms

Updrafts and downdrafts, outflow phenomena, wall clouds and the effects of wind shear on thunderstorm development.

Tornadoes

Tornadoes, cyclic storms and low-level flow fields associated with tornadic thunderstorms.

Modeling

Supercells, squall lines, and other phenomena recreated inside computers for the benefit of forecasting and understanding.

Acknowledgments

Those who contributed to the development of this module.

The critical role of atmospheric dynamics and thermodynamics in determination of storm type is stressed. We will take a close look at the storms themselves; from the small, summer storms capable of producing dangerous "microbursts" to the large "supercell" storms which spawn destructive tornadoes.

ARRL Helps Manufacturer to Resolve Arc Fault Circuit Interrupter RFI Problems

11/19/2013

The ARRL Lab has worked with a manufacturer of arc fault circuit interrupter (AFCI) breakers to resolve complaints that Amateur Radio RF was causing certain breaker models to trip unnecessarily. Like the more common ground fault circuit interrupter (GFCI), the AFCI is a safety device. Primarily designed to detect problems that could result in a fire, AFCIs detect potentially hazardous arc faults that result from often unseen damage or poor connections in wiring and in extension cords and cord sets.

“Several months ago we started receiving reports from amateurs that when they transmitted, their AFCI breakers were tripping,” said Mike Gruber, W1MG, the ARRL Lab’s EMC specialist. He notes that the issue has been a topic of online ham radio discussions as well as on homeowner sites; it seems that stray RF is not the only thing that can cause a “nuisance trip” of an AFCI. Gruber pointed out that the National Electrical Code (NEC) already requires AFCIs in some household circuits, but not all US jurisdictions have adopted the requirement.

Gruber said that as AFCIs became more common in new construction in the US, reports started coming in that AFCIs in the vicinity — not just in the radio amateur’s home — would trip in the presence of RF from an Amateur Radio transmitter. While each manufacturer’s design is proprietary, most AFCIs detect arcs by monitoring the shape of the alternating current waveform, changes in current levels, voltage irregularities, and the presence of high frequency emissions or “noise.” The ARRL Lab dug into the problem.

“Last summer we built a test fixture in which we could test any type of circuit breaker,” Gruber said. It involved using W1AW as an RF source. Gruber says he bought one of “every AFCI that I could get my hands on,” but when the Lab began testing them during W1AW transmissions, none of the devices tripped.

A ham in New Mexico who had reported AFCI problems sent some of his breakers to the ARRL Lab, “and those tripped when we tested them,” Gruber said. The problematic breakers were certain models made by Eaton Corporation. “We already had an Eaton breaker, an older model, but it did not trip,” he noted, adding that the breaker had a yellow button. The newer model, which had a white button, did trip in the presence of RF, however, even at power levels down to about 50 W on 17 meters.

Gruber contacted Eaton, and two of the manufacturer’s engineers visited ARRL Headquarter in August. “Eaton was extremely cooperative and eager to resolve this,” Gruber recounted. “They spent the day with us, going over our test methods and took some of the problematic breakers back with them, eventually developing a modified version.

“We have just finished testing the new version of the breaker, and it did not trip during W1AW transmissions and in other tests,” Gruber reported. He said the new breaker is still in the queue for UL approval.

Eaton Engineering Director Andy Foerster said arc fault detection is challenging, in part because so many common household devices — such as vacuum cleaners and power tools that use motors with brushes — create arcing. In information provided to ARRL Eaton engineer Lanson Relyea said that because AFCIs rely on HF emission detection to verify arcing, “any signal that conducts or radiates a signal within the detection band of the AFCI can cause interference and cause the device to trip without the presence of a true arcing condition.” Foerster explained that all arc fault devices must meet the requirements of UL standard 1699. “This standard requires a very extensive set of tests to confirm that the device will detect an arc, that it will not nuisance trip in the presence of a set of common loading conditions, and that it will resist a variety of environmental noise sources,” Foerster told ARRL. “Among this last set of noise sources is radiated electromagnetic field immunity and immunity to conducted disturbances.”

Foerster said AFCIs use “some pretty sophisticated digital signal processing technology” to distinguish various types of arcs. “They continue to get better, but they are not perfect,” he added. “And the governing philosophy is that they should err on the side of tripping.” According to Foerster and National Fire Protection Association (NFPA) statistics, the use of AFCIs appears to have contributed to an overall decrease in house fire from

electrical causes. When the National Electrical Code (NEC) begins to specify AFCI receptacles next year, Foerster assured, these will include “the immunity to ham radio RFI that we have developed with the testing assistance of the ARRL.”

Eaton and ARRL agreed that when the manufacturer comes out with any new models of breakers, it will ask the League to test them at W1AW. “It’s a win-win situation,” Gruber said. Eaton also has agreed to work with anyone having a problem with RF tripping its AFCIs. Eaton says that AFCI manufacturers “are aware of this compatibility issue and are actively working to correct this in future products.”

Eaton’s Relyea said that hams experiencing unwanted tripping problems with their or their neighbors’ AFCIs should contact the manufacturer as the first step in rectifying the compatibility issue. In the case of Eaton breakers, contact Bob Handick (412-893-3746) or Joe Fello (412-893-3745).

W1AW Manager Joe Carcia, NJ1Q, with the AFCI test fixture the ARRL Lab used to check the susceptibility of the breakers to RFI. [Mike Gruber, W1MG, photo]



..... ARRL News 2013 Thanks Chris KQ9Y for finding this article.

INTERESTED IN UPGRADING TO GENERAL CLASS?

MARC is considering a general class licensure class at some point later this year. Anyone interested should contact either Bruce Tisdale (VicePresident@Midstatehams.org) or Jacki Fredericks (President@Midstatehams.org) in regard to participating.

Additional details will be communicated based on the level of interest.

CONGRATULATIONS ARE IN ORDER

The following have recently tested and passed through the MARC VE testing:

Technician

Scott W. Nelson – KD9FOA
Dave W. Forehand – KD9FNX
Bill J. Rushin – KD9FNZ
Scott Hoffenstine – KD9FNY
Ryan Abell – KD9PP
John Dickerson – KD9FP0
Sabastian G. Gid – ?
Robert Clouter – KD9FHI

General

Steve McQueen – W9BRI
Todd Brandenburg – KD9FFI

Extra

Bernard Heffernan – KB9AWS
Wesley Murphy – KD9FFG



Grading the exams



Grading the exams



Bruice K9ICP instructing

The ARRL really needs to reach out more effectively.

by Dan KB6NU

March 5, 2016

I've criticized the ARRL in the past over their membership recruiting efforts. I don't believe that they're doing enough to attract new members and retain existing members, and a few recent incidents have only solidified my opinion.

A couple of months ago, one of my Elmer's were here at my house, and at one point we started talking about the ARRL. He wasn't critical, per se, but rather mostly indifferent about the ARRL. He just didn't see the value of the ARRL.

A couple of weeks ago, I received an e-mail from a ham radio podcaster. He forwarded to me a link to an online discussion that's highly critical of the ARRL, especially the rate hike. He writes, "I'm not a member and probably won't ever join again after reading this. I'm not looking to go to war with the ARRL because I don't care enough about it right now in my life, but I was curious once I read this."

And, then, there's this post on reddit. This poster complains about ARRL recruitment techniques and the cost of membership. He writes, "Has the ARRL lost touch with reality? Are the ARRL lawyers really that expensive? (you bet they are). While I appreciate everything they do, they need to wake up."

The latest was from a comment filed with the FCC on RM-11759. The commenter says, "The ARRL membership only accounts for a fraction of us armature (sic) radio operators and doesn't speak for the majority." Needless to say, he was not in favor of the proposal.

I don't think that these are isolated cases. I think an attitude such as this are common among amateur radio operators, and if the ARRL doesn't take steps to stem this tide, then the percentage of licensed hams that are ARRL members is going to continue to decline. Perhaps more importantly, its influence will decline.

I'm happy to report that I did manage to convince my Elmer to become an ARRL member. I'm not so sure about the podcaster. I sent him a long response, noting some errors in the original post, but I haven't heard back from him.

I hope that the ARRL's new CEO, NY2RF, will make membership recruitment and involvement a priority. As I've said before, more members mean more money for programs and lobbying and more volunteers willing to do more things. In the end, that will make amateur radio stronger.



2016 List of Hamfests in Indiana / Convention

☐ **03/12/2016 Terre Haute Hamfest**

Location: Clay County 4-H Fairgrounds 6650 N State Road 59 Brazil, IN

Sponsor: Wabash Valley ARA

Website: <http://www.w9uuu.org>

☐ **04/09/2016 Columbus Hamfest**

Location: Bartholomew County Fairgrounds Community Building Columbus, IN 47201

Sponsor: Columbus Amateur Radio Club

Website: <http://www.carcnet.net>

☐ **04/16/2016 North Central Indiana Hamfest**

Location: Miami County 4-H Fairgrounds, 1029 W 200 N, Peru, IN

Sponsor: Cass Co. ARC, Miami Co. ARC, Grant Co. ARC, & Kokomo ARC

Website: <http://nci-hamfest.net>

☐ **05/20-21-22/2016 Dayton Hamvention**

Location: HARA Arena, Dayton, OH

Sponsor: Dayton Amateur Radio Association

Website: <http://hamvention.org>

☐ **09/17/2016 Bloomington ARC Hamfest**

Location: Monroe County Fairgrounds, 5700 West Airport Road, Bloomington, IN 47401

Sponsor: Bloomington Amateur Radio Club

Website: <http://www.bloomingtonradio.org>

☐ **11/12/2016 Indiana State Convention**

(Fort Wayne Hamfest & Computer Expo)

Location: Allen County War Memorial Coliseum, 4000 Parnell Avenue, Fort Wayne, IN 46801

Sponsor: Allen County Amateur Radio Technical Society

Website: <http://www.fortwaynehamfest.com>



MID-STATE AMATEUR RADIO CLUB

The Mid-State Amateur Radio Club meets the **THIRD SATURDAY** of each month in the basement of the Johnson County Law Enforcement Center, Conference Room 1111 Hospital Road, Franklin, Indiana 46131.

See our website, www.midstatehams.org, for maps on how to get to our meeting.

Everyone is welcome; you do not have to be a *HAM* to attend our meetings or a member of the club.

WA9RDF Repeaters:

146.835/
146.235 MHz
(151.4 Hz PL Tone)

Club Officers:

President: Jacki Frederick – KI6QOG
Vice President: Bruce Tisdale -- K9ICP
Secretary: Rhonda Curtis – WS9H
Treasurer: Cy Young – N9CHY
Repeater Trustee - Chris Frederick – KQ9Y

WA9RDF Repeater:

443.525/
448.525 MHz
(151.4 Hz PL Tone)

Weekly Net: Sunday evening 7:00 PM ARES/RACES members and ALL RADIO AMATEURS
146.835/146.235 MHz (151.4 Hz PL Tone)

The Official Newsletter of the Mid-State Amateur Radio Club

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Franklin, Indiana
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Editor: Robert LaGrange N9SIU

Please send your articles to my email: n9siu@yahoo.com no later than the 3rd of the month

Remember Club Dues for 2016 are due; please see Cy Young N9CHY at the meeting Saturday.

